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## ORIGINAL DEPARTMENT.

### COMMUNICATIONS.

#### THE PHYSIOLOGICAL ACTION OF BELLADONNA AND ITS ALKALOID, ATROPIA, ON THE EYE.

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Correction, etc., etc., etc.

An address read by invitation before the Medical  
Society of the State of Delaware, at Dover,  
June 12th, 1877.

It has been known, for a very long time, that when belladonna was taken inwardly in large doses, the pupils of the eyes would become dilated and the vision affected. Charles Himly, taking advantage of this fact, made a local application of it in the eye, to prevent the adhesion of the iris to the anterior capsule of the lens, and occlusion of the pupil in cases of iritis. C. v. Graefe, the father of the great oculist A. v. Graefe, followed up the same idea, and applied it in scrofulous and rheumatic inflammations of that organ. Also Prof. M. Langenbeck used it, with success, to dilate the pupil in cataract operations, to prevent injury to and adhesions of the iris, as well as to combat any inflammation arising from the operation.

Since this first introduction of the use of belladonna, locally, in the eye, it, or its alkaloid, atropia, has become the sovereign remedy in most of the diseases of that part, just as opium or its alkaloid, morphia, is the sovereign remedy in most cases of pain.

In former times, a decoction of the leaves was applied over the eyes; then the extract was

made from the plant and the root, and it came into use by rubbing it over the eyebrow and on the temple, as well as dissolving some in water, and dropping it in the eye; but in the present time the alkaloid, or active principle, "atropia," has been extracted, and is now almost universally used.

Atropia, being almost insoluble in water, is made into a sulphate by dissolving it in ether or alcohol, and adding, very carefully, sulphuric acid until saturation only, without excess of acid. It is crystallized by evaporation, and washed from excess of acid by ether or alcohol, then re-dissolved and re-crystallized until perfectly pure.

This sulphate of atropia is easily soluble in water, and has become one of the most important remedies, not only to the ophthalmologist, but also to the general practitioner, for hypodermic injections, etc.

The use of this salt in solution, as an eye wash, has become so general, that almost everybody prescribes and recommends it for every and all troubles of the eye. Druggists prescribe it over their counters continually. It is not to be supposed that such persons know anything of its action, whether good or bad, upon the eye; but there are, no doubt, many physicians, who, following the course recommended by some writer or friend who has found it beneficial in some cases, prescribe, daily, collyria and ointments containing either belladonna or atropia, to dilate the pupils, or to relieve inflammation, without knowing its true physiological action on the eye.

It will be my pleasure, therefore, to lay before you this afternoon, in brief, the results

of some of the anatomical and physiological researches upon this subject that have been brought to light by the great workers of the day, among whom I may mention Müller, Manz, von Graefe, Donders, Bowman, Arlt, Helmholtz, Stellwag, Leber, Krause, Henle, Kölliker, Luschka, etc.

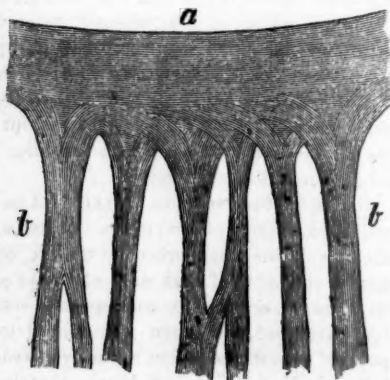
For the better understanding of the action of belladonna on the iris, I will follow, principally, Stellwag, and necessarily translate and quote very much that has been said by this eminent authority upon this subject.

The iris contains circular and radiary muscular fibres. The circular fibres form a smooth, ring-like muscle, located around the pupillary part. This muscle is called the "sphincter pupillæ," and contracts the pupil. The radiary fibres do not form a continuous muscle, but extend from the ciliary border in a radiary manner, and are inserted into the circular fibres by slender fasciculi. These fibres serve to dilate the pupil, and the muscle is called the "dilator pupillæ." See Fig. 1.

The iris is influenced by four nerves: the third (oculomotor), the fifth (trigeminus), the sympathetic and the optic.

"The sphincter pupillæ and the ciliary muscle are supplied with branches of the third nerve, which pass through the ciliary ganglion, and form,

FIG. 1.



(From Kölliker.)

a. Circular fibres of the Sphincter pupillæ.

b. Radiary fibres of the Dilator pupillæ.

with the other ciliary nerves, four main bundles of fibres, which reach to the ciliary body

and separate in a quadrant of the ciliary muscle and sphincter pupillæ muscle. The dilator pupillæ and the vascular muscles of the iris are influenced by motoric fibres of the sympathetic. These fibres originate in the medulla oblongata, run downward in the anterior column of the spinal cord, enter the anterior roots of the two lower neck and upper breast nerves, unite with the sympathetic, and pass with it upward through the superior cervical ganglion. The fifth nerve supplies the iris with sensible fibres.

"The optic nerve has only an indirect action on the iris, inasmuch as the iris contracts when light falls on the retina. The ciliary nerves (branches of the third, fifth and sympathetic) lie in the outer layer of the choroid, in the lamina fusca, and run through many little knots, the so-called intra-ocular ganglia" (Schweigger).

FIG. 2.



Ganglion cells and nerve fibres found in the Choroid. (Schweigger.)

"These ganglia officiate as centres, because conditions of excitation of the sensible nerves can be reflected on the motoric nerves without the brain or spinal cord partaking thereof. On these ganglia the atropia acts" (Stellwag).

The action of atropia is of a twofold nature; it dilates the pupil and paralyzes the accommodation. After the proper length of time of action of the agent, the dilatation of the pupil is a maximum, the iris recedes until only a small seam is perceived; it remains perfectly immovable, and does not react either on reflex irritation, contrast of light or consensual action as accommodative impulse. Stellwag says that "this powerful dilatation is hardly attainable through the paralysis of the sphincter pupillæ alone; there must be some active power present, which drives the blood out of the iris back into the posterior uveal tract; and this power is developed through the contraction of the dilator pupillæ and vascular muscles. A proof of which is, that in complete paralysis of the oculomotor nerve the pupil is only half dilated,

and if atropia is put into the eye at this stage the dilatation becomes greater, showing that through the atropia a particular power is brought into action that can still dilate the pupil."

"It remains now the question, If, from the above expressed facts, it can alone be explained by the sole contraction of the dilatator pupillæ?"

"The dilator lies on the posterior border of the iris, and consists of an evenly formed, thin layer of smooth, muscular tissue; the larger vessels of the iris lie before it (*i.e.*, anteriorly). If it contracts alone the pupil is dilated, but the vessels are not compressed. The retreating iris forms a small but thick fold. This fold is not found, however, by a thoroughly dilated pupil. If we examine the iris by a contracted and a completely dilated pupil, we do not find it thicker in the latter (dilated) state than in the former, a proof that the vascular muscles have also contracted."

Rosbach and Fröhlich, in their experiments with atropine on rabbits, noticed that very weak solutions (three to six millionths of a gramme) caused contraction instead of dilatation of the pupil, through irritation of the ends of the oculomotor nerve. In somewhat stronger solutions the ends of the oculomotor nerve became paralyzed and the pupil dilated slightly. Still stronger solutions increased the dilatation by irritating the sympathetic and the dilatator pupillæ; and on the use of very strong solutions the sympathetic and dilatator pupillæ were paralyzed, so that the pupil contracted somewhat from its extreme dilatation.

They found that atropine has the contrary action on the pupil of a frog to that of man or warm-blood animals. It contracts it instead of dilating, and physostigmin (the active principle of the calabar bean) dilates the pupils.

I have made some very careful experiments with the sulphate of atropia and sulphate of eserine (physostigmin) on the eyes of the frog; and my experience does not accord with that of Rosbach and Fröhlich. I found that the action of these salts was not different in this case from that in man and warm-blood animals, except that the dilatation from atropia was so slight, and remained such a short time, that it could hardly be observed. It required the closest attention and scrutiny. In making my experiments, I found that simply dropping the solution of either atropine or eserine on the eye, gave not the least action. I then intro-

duced a probe behind the lid and held it off from the ball, while my assistant, Dr. Thomas H. Fenton, let a drop of the solution I was using fall in the cul-de-sac made by the probe.

Weak solutions of either salt did not give any reaction, but from a solution of sulphate of atropia of four grains to the ounce of water, a very slight dilatation was observed. From a solution of eserine, of the same strength, marked contraction took place in a short time, with considerable irritation in the eye, causing him to wink often, then close it and rub it with his fore leg. The contraction of the pupil did not remain but for a few minutes, although it reached a very marked degree in that short time. The frog felt the toxic effects for over an hour, exhibited by great spasmodic breathing, then closing the eyes and remaining motionless for a time, then again spasmodic action of the respiratory organs.

A peculiarity which we noticed in the eyes without any drops was, that in the morning, until about 9 o'clock, the irides were somewhat contracted; then they slightly dilated until about 11 o'clock, when they began to contract, and remained in this condition until 2 p.m., when dilatation took place until about 3 or 4 o'clock; then a slight contraction occurred till toward evening, when they began to dilate again, and by night were widely expanded.

A solution of atropia, gr. iv ad.  $\frac{3}{4}$  j dropped in the eye of a pigeon, did not produce the least dilatation of the pupil; but, after eserine, of the same strength, there was in two minutes great spasmodic action of the lids, and contraction of the pupil, which, in four minutes, reached its maximum, the pupil being as small as a pin's point, and death occurred in half an hour. I also tried the action of both these salts on chickens, and did not see any effect, except that the eserine created a temporary irritation and congestion of the conjunctiva.

Giguel has observed, that "when a not too concentrated solution of atropine is injected under the skin, in the neighborhood of the eye, dilatation of the pupil of that side only takes place. In some cases when a concentrated solution ( $\frac{1}{10}$ ) was used, its action was noticed in the pupil of the other side, but never by a weak solution." He coincides with Potain, that the one-sided mydriasis following a hypodermic injection of atropine in the peri-orbital region is the result of reflex action in the benumbing of the periphtric ends of the trigeminus. But when

the mydriasis is double, it shows direct action from the centre. He recommends the hypodermic injection of atropine for facial neuralgia, to be made in the immediate neighborhood of the diseased nerve.

Beside the dilatation of the pupil, there takes place, on the use of atropia, loss of accommodation, and the condition of refraction is generally reduced somewhat below the standard measure, which is found in complete rest of the apparatus of accommodation. This is particularly the case if it is put in the eye in strong solutions, or at short intervals.

It has a twofold action on the eye. It irritates the sympathetic, belonging to the motoric nerves of the dilator and vascular muscles, and paralyzes the motoric nerves of the sphincter pupillæ (contractor) and ciliary muscles.

"The paralysis of the oculomotor nerve is only relative, it consists only for certain innervations, during the reaction of the muscles from other impulses, and during which the iris is not sensitive to reflected and consensual irritation, nor impulse of the will, but contracts when the intraocular ganglia are directly irritated, or through interposition of the sensible branches of the fifth nerve, as is to be seen in the sudden contraction that takes place if paracentesis of the cornea is made, and the aqueous let out in a case where the pupil has been dilated, or if a strong chemical reaction is brought to bear on the ball in the same case.

"We have the same action by morbid irritation of the ciliary branches of the fifth nerve. It is constantly seen that atropia will not act in the least in cases of great ciliary irritation, as is often met with in iritis, many forms of keratitis, etc. It frequently occurs that, in cases where the pupil is well and largely dilated by the instillation of atropia, a severe ciliary irritation will suddenly set in, and cause the pupil to contract at once.

"Really the extent of the dilatation where there are no posterior adhesions is the best barometer for the degree of ciliary irritation" (Stellwag).

"By intense irritations of the sensible ciliary nerves, spasm of the ciliary muscles occur; this still more excites the sensible ciliary nerves, and through these the vaso-motoric nerves, which increases the inflammatory condition and appearance. This irritation and spasm often occurs in hypermetropic eyes, where there is great strain of accommodation in acts of vision.

The atropia relieves this spasm; and acts also sedatively on the fifth nerve. Its principal action consists in the contraction of the vessels in the anterior ciliary region, and thereby takes its place as a true antiphlogistic."

"As an antiphlogistic remedy, we have nothing like it in medicine; it acts to relieve inflammation on a particular circumscribed part of the body without affecting any other part."

Its absorption takes place through the conjunctiva and cornea, and soon after the instillation it can be detected in the aqueous humor. If a few drops of a solution of the strength of 2 to 4 grs. ad. 3j is put in the eye, the pupil begins to dilate in 15 minutes, and reaches its extreme dilatation in about 30 minutes. The decrease of the accommodation is not simultaneous with the dilatation of the iris, but begins to diminish only after the pupil is somewhat dilated; and does not reach its fullest extent of paralysis until some hours after. After 3 or 4 days the pupil will be somewhat smaller, and a slight degree of accommodation reappears; but the latter is not fully re-established until 10 and sometimes 14 days.

The use of atropia is indicated in all cases where a dilatation of the pupil is necessary. With some few exceptions it is used in all diseases so long as there is any ciliary irritation. In many cases of severe ciliary irritation and spasm of the muscle, a leech or two, or the artificial leech, on the temple, will assist the action of the atropia in dilating the pupil.

A solution of the strength of four grains to one ounce water is strong enough to paralyze the accommodation if applied often enough. Generally one or two instillations in one day are sufficient; but in cases of spasm three or four are necessary, and sometimes it must be continued for two or three days. In very severe cases I find it best to instill a drop every five or ten minutes for half an hour, then wait an hour, when the instillation should be repeated for half an hour, as before. This has always relaxed any spasm that I have seen.

I think it a great mistake to use stronger solutions, or even the pure salt, as I have seen practiced, for the reason that they are too irritating to the conjunctiva, causing, in a very short time, too great a relaxation of the vascular muscles, thus developing a chronic form of conjunctivitis, and also from the probability of the sympathetic and dilator becoming para-



lyzed, thereby causing the pupil to contract again somewhat from its maximum dilatation.

The use of atropia is contraindicated in cases where glaucoma is suspected.

"The greater part of the arteries of the iris bend direct into the veins, and these empty their contents almost without exception, through the *venae vorticosae* of the choroid, with which they are in intimate connection through the ciliary processes.

"The pressure of the circulation in the eye is regulated in the normal condition partly by the contractile walls of the vessels, and partly by the elasticity of the ball, which extends in equal proportion. If more arterial blood flows into the eye, more venous blood is forced out, thus regulating the circulation. In this way the intraocular pressure and tension remain always an equal standard. If, however, from some cause, the eyeball loses its elasticity, it will not be in a condition to regulate the circulation as formerly. The consequence thereof will be, that by a temporary arterial increase the fresh blood cannot be pressed out with rapidity enough to keep the intraocular pressure at the normal standard, and then a slight choking of the veins will take place, causing an increase of tension in the ball.

"Hard eyeballs, with little elasticity, are often found in advanced age in connection with dilated atheromatous vessels, and in some cases it is habitual from birth, being hereditary in some families. Bulbs of this kind can take but little active action in the circulation of the eye, while the want of the proper elasticity can be the cause of much trouble.

"From the rigidity of the capsule the lamina cribrosa is extended, and gradually gives way, and presses back under the increased intraocular tension, thus causing the excavation in the disk as seen in glaucoma.

"By continued pressure the vessels passing obliquely through the sclera are eventually obliterated; the meshes in the lamina cribrosa become reduced and the main stems of the central veins compressed. From this the excavation will be the cause of a still greater choking of the vessels and an increase of the intraocular pressure; the greater part of the blood will try to relieve itself through the anterior ciliary veins which pass straight through the sclerotics, and whose calibre is not at first affected by the pressure, but become enlarged by the increased flow through them.

"We therefore see that eyes of greater than normal tension are disposed to glaucoma; and in such cases glaucoma often arises by outward influences of the slightest kind, as by any interference in the circulation of the eye, etc." (Stellwag).

As before mentioned, the action of atropia causes the blood to be driven out of the iris, back into the posterior uveal tract, and thereby an overfilling, and choking of the vessels of the choroid can take place, with the development of glaucoma in persons whose eyes are so disposed.

From this we see that there is danger, in the instillation of atropia in the eyes of persons when there is an abnormal hardness of the ball.

By long continued use of atropia in the eye, the sympathetic fibres become somewhat weakened, and the blood vessels cannot perform their proper function. They become suddenly enlarged, pain sets in, and the conjunctiva and episcleral tissue become swollen and inflamed. Naturally, in such a condition, the use of atropia must be discontinued, and a light astringent or chlorine water used for a time. I have seen some persons of extreme scrofulous diathesis who could not bear the least particle of atropia without its being combined with chlorine water, or a very weak solution of sulphate of zinc.

Care should be taken to see that the solution of atropia used is perfectly clear and neutral. Sometimes the salt is not thoroughly washed, and it contains some excess of acid, which causes irritation. Solutions of atropia become cloudy and flocky on standing, from collections of free particles of carbon that get in it during manufacture, etc., and should be filtered or renewed.

In its use, some naturally passes, with the tears, through the lachrymal duct into the nose and down the throat; and on continued use symptoms of poisoning appear, as dryness of the mouth, bitter taste, headache, excitement, fever, etc.; to remove which quickly, one or two hypodermic injections of  $\frac{1}{4}$  to  $\frac{1}{2}$  gr. of morphia should be made, in the temple or arm.

Great care should be taken in its use by small children and infants. It is not advisable to allow the parents or others to apply this exceedingly dangerous remedy to such patients, for they are likely either to put in too much, or to let it run down the face into the mouth, and thus seriously, and perhaps fatally, poison the

child. I have seen some cases of infants and very small children, where not the least particle of atropia could be used without toxic symptoms, while the extract of belladonna, in weak solutions, could be made to answer very well.

In examining eyes, and using atropia, it should not be forgotten that, when the pupil is dilated, the accommodation is paralyzed, and the vision reduced; it is well to inform the patient of this fact, otherwise they are apt to become alarmed, and run from physician to physician, in their anxiety and worryment, fearing they are going blind from what has been dropped in their eyes.

#### THE DETECTION OF BRIGHT'S DISEASE, BEFORE THE APPEARANCE OF ALBUMEN IN THE URINE.

BY H. S. SCHELL, M.D.,

Surgeon to Will's Hospital, Philadelphia.

During the last few years my observations have convinced me that, in some instances, it is possible to diagnose degenerative disease of the kidneys, by means of the ophthalmoscope, before any of the symptoms which are usually relied upon have presented themselves.

One of the first cases which drew my attention to this subject was that of Mrs. M. T., a lady of sixty-two years of age, and a resident of a rural village in the interior of the State. While she was on a visit to her daughter in this city, in November of 1874, she consulted me with regard to failing vision. She had found that for a month or so previously her glasses no longer enabled her to see plainly, and she could find no spectacles at the opticians to improve her sight. Her vision proved to be  $\frac{30}{60}$  in both eyes. An ophthalmoscopic examination revealed slight degenerative changes in the crystalline lenses, but not enough to prevent an accurate examination of the deeper structures. Clustered on and around the macula lutea, were about twenty minute white spots. They glistened in the reflected light, and looked as if situated in the anterior layers of the retina. The clusters were each about two-thirds of the size of the optic disks, and, as nearly as could be judged, exactly alike in the two eyes. Three or four other small spots were scattered along the course of the retinal vessels, but otherwise the retina was clear, transparent, and not swollen. Although she had no other symptoms of Bright's disease, I requested an examination

of the urine, and, to my surprise, found neither albumen nor casts. With the exception of a slight gouty tendency her health was quite good.

I saw this lady subsequently, at irregular intervals of a month or two, for nearly two years, and although in that time I made careful and repeated examinations of the urine, both chemically and microscopically, I was never able to detect a trace of albumen, nor a single tube cast, until in July of 1876. I then found that the changes in the crystalline lenses had remained stationary, that her vision had improved to  $\frac{20}{40}$ , and that the white spots had almost entirely disappeared from the retina. Her ankles now, however, were slightly cedematous, and the urine contained a trace of albumen and a few hyaline casts. I have not seen her since, but I hear that she is still living in the country, although her health is manifestly failing.

Another case was that of Elizabeth S., aged 60, whom I first saw in August, 1877. Her sight had failed three weeks previously, and at the time of examination her acuity of vision equaled  $\frac{20}{40}$ . There was not the slightest evidence of kidney disease in her urine, nor in her general health, but yet her retina at the fovea centralis and macula lutea displayed a collection of minute white exudations, which pointed to Bright's disease. Edema of the ankles, in the evening, first made its appearance, in her case, in two months afterward, and was even then unaccompanied by albumen in the urine, although a few short, granular casts were to be found. Since then I have lost sight of the case, and do not know its result.

Another somewhat similar case was that of a tavern keeper, aged 55. In this instance, at the first examination, a cluster of hemorrhagic spots were seen at the macula, and several in the course of the vessels. These all changed, in a week or ten days, into the white spots before described. Albumen was not detected in the urine until a month after the first examination.

Two other cases of similar glistening, white specks at the macula, occurred in women of 57 and 60 years of age. In the last instance cataract was commencing to form in the right eye, but the fundus could still be readily seen. The urine was free from casts or albumen in both cases, and as I saw the women but once I can say nothing of their subsequent history.

In none of these cases, I regret to say, have I used the test for the blood extractives proposed

by Dr. Owen Rees, in *Guy's Hospital Reports*, 3d series, vol. xiv, or that for hæmoglobin used by Mr. Mahomed, *Medico-Chirurgical Transactions*, vol. 57.

In all the cases above narrated the retinal arteries appeared to be normal in regard to size, as compared with the veins, and if there was any contraction, I could not perceive it. The veins were neither swollen nor tortuous. In no case was there, so far as I could detect, any disease of the heart.

It is, however, in the light of the investigations reported by Thoma, in the September and October numbers of *Virchow's Archiv.* for last year, that these cases assume particular interest. This observer made a variety of comparative experiments upon the anatomical and physiological conditions of the granular and of the healthy kidney.

He first endeavored to ascertain the relative amount of flow which would take place through the renal vessels in the contracted and in the sound organ. The measurements were all taken under equal conditions as regards the age of the individuals and the amount of pressure used. He found that the volume of fluid which could be passed through the diseased organ was much less than through the healthy one, as the lessened size of the kidney would naturally lead us to expect. In addition to this, however, it transpired that the amount of liquid issuing from the renal vein, as compared with that entering by the renal artery was, in the granular kidney, much less than in health; indicating probably a greater outflow through the tubules in the diseased condition.

Very careful comparative measurements of the various parts of the healthy and the granular organ showed that the sectional area of the renal artery in the latter is very slightly smaller than in the former, in persons of the same age and weight. But if the size of the kidney itself is made the standard of comparison, then the diseased artery is from a fifth larger to twice as large as the sound one. The interlobular arteries, the vasa afferentia and the glomeruli are all absolutely larger. The rapidity of the circulation of liquids through the arteries of the diseased was less than half that of the normal organ. On the other hand, injections of colored fluids transuded more readily through the walls of the arteries in the granular than in the sound kidney, and this obtained even when the vessels were apparently healthy. Colloid sub-

stances, saline solutions, and even solid particles of coloring matter, also passed easily through their walls. The capillary network proved to be much atrophied, and direct vascular connection took place between the afferent and efferent vessels, the glomeruli being often cut off from the circulation by constricting bands of fibrous tissue growth. As a general rule, notwithstanding the fibroid growth of the intima, the lumen of the vessels is not diminished. A contraction may take place, of course, when there is endarteritis superadded.

All this is opposed to Gull and Sutton's theory, that the narrowing of the vessels by new growth causes the obstruction to the circulation. It shows that the vessels in granular kidneys are not of less than the normal calibre, and that the obstructions to the circulation are outside of the arteries, in the connective tissue of the kidney. Such changes, however, as do take place in the walls of the vessels, lead to increased permeability of their coats, and hence we have a greater flow of urine and albuminuria.

These same changes probably also go on in the vascular walls in other parts of the body, and as the retinal arteries are so favorably placed for clinical observation, we might naturally expect to find new conditions in connection with them, even before sufficient alterations have taken place in the structure of the kidney to call attention to disease there. Besides this, the retinal arteries, lying as they do in the nerve fibre layer, with no support on one side but the nearly fluid vitreous, would more readily show the effects of increased permeability of their walls than those vessels which are imbedded in solid tissues. The eye, even in health, is subject to variations in its tension or the pressure of its contents. When the vessels are sound, such increase or lessening of the tension of the globe takes place without causing any more than the natural transudation or absorption of the humors of the eye. But if the vascular coats become abnormally permeable we cannot but infer that lessening of the ocular tension would be followed by the extravasation of blood, and especially from the delicate loops about the macula lutea. Such extravasations may, according to circumstances, be absorbed before the eye comes under observation, or, what is more likely, may end in the formation of the exudative products described in the cases above related.

1802 Chestnut street.

## CASE OF DEPRESSED CRANIAL FRACTURE—RECOVERY.

BY A. H. MELLERSH, M. D.,  
Of Philadelphia.

I have the following interesting case to report. S. M., aged 29 years, married, coachman by occupation, good physique, regular and steady in his habits, was thrown from a carriage in the grounds of Girard College; his head struck the roots of a tree with violence, and a portion of wood penetrated the roof of the orbit above the inner canthus, and passed into the cranial cavity; the frontal bone was also fractured at the outer margin of the orbital ridge.

The patient was seen by Dr. Berlet and myself, ten minutes after the accident; we found him in a semi-unconscious condition, with considerable hemorrhage, proceeding, probably, from the palpebral arteries; the hemorrhage was controlled by ice and pressure.

The wound of the soft parts extended from the middle of the orbital ridge to below the inner canthus, and the orbit was displaced outward. Consciousness returned half an hour after the accident, and he commenced to vomit; this was partially the result of having swallowed a considerable quantity of tobacco. In spite of support given to the wound, the act of vomiting caused the protrusion and loss of about half an ounce of the cerebrum, consisting almost entirely of the cortical substance, and including the supra-orbital convolution, which we at first mistook for the olfactory ganglion.

On the arrival of Dr. Marcoe, the physician to the institution, he decided that the depressed portion of the orbital plate should be at once elevated, but although the lazaret appointments of this noble charity are very perfect, the necessity of constant medical attendance rendered it necessary to remove the patient to the German Hospital, where the operation was performed. On exposing the bone, to elevate the depressed portion, a small quantity of cerebral substance was again lost, but the general condition became decidedly improved, the temperature, which had been below normal, rose to ninety-nine; the pulse was fifty-six, and the pupils dilated; he spoke rationally, but was very apathetic and drowsy; strange to say, the eye was discovered to be uninjured.

Reaction setting in, ice was applied to the head and wound, and a purge administered, followed by bromide of potassium.

Under the care of Dr. Wm. Ashbridge, Surgeon in charge, the progress of the case was very satisfactory. On the second day there was slight suppression of urine, and the semi-comatose condition continued. On the third day there was vomiting, pulse dicrotic, temperature 98½; respiration normal, extremities cold; gave stimulants. Fourth day, considerable delirium. Seventh day, carbolic injections were used, into the wound, and there was a copious discharge, which had the peculiar odor of disorganized nerve tissue. Ninth day, wound was kept freely open with sponge tents.

From this time the convalescence was slow but steady, and at date of writing this report the patient is performing his usual duties, and, with the exception of the deformity caused by cicatricial contraction, he has nothing to complain of.

This case is another instance of the remarkable recuperative tendency, under favorable circumstances and treatment, which shows itself occasionally in the most desperate cerebral lesions, and is a warning not to remit in our efforts, even in apparently hopeless conditions.

*Case of Chronic Bromine Poisoning.*

A. M., a man of large frame, fifty-four years of age, and of good constitution, had worked in the manufacture of bromide of potassium for ten years; the bromine gas, he avers, was at times so strong as to cause him to spit blood. The first symptoms that he noticed occurred more than a year ago, and were alternate diarrhoea and constipation; then followed vertigo and photopsia, together with some loss of coördination and anaesthesia of the lower extremities, but these symptoms were not severe enough to prevent his working, which he continued till August. The derangement of vision increased, but in December he could still read; about this time the photopsia gave way to amaurosis, which progressed, within a year from the first symptoms, to almost total blindness. There was great constipation, with enlargement and hardness of abdomen; dysuria and retention of urine, with vesical pain, were also prominent symptoms. The heart was irritable. The olfactory and gustatory functions were unimpaired, and there was no loss of memory.

While under Dr. Cohen's care, in the German Hospital, there was some improvement in the coördination.

Dr. Charles S. Turnbull, at whose instance



the case was admitted, had diagnosed the following conditions: incipient atrophy of both optic nerves; the vision had diminished one-half, the disks were white, the arteries small and thready, and the retina anæmic, while there was loss of color perception and mydriasis. He also examined the urine, in which he discovered some traces of bromine.

Prof. DaCosta, who saw the case at the clinic, and to whom I gave notes, considered that there was also sclerosis of the anterior columns of the cord.

There are but few reported cases of chronic bromine gas poisoning, which renders the above of some interest.

## HOSPITAL REPORTS.

### CLINICAL LECTURE.

BY ALFRED L. LOOMIS, M. D.,

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Medical Department, University of the  
City of New York.

Reported expressly for the MEDICAL AND SURGICAL REPORTER.

**Chronic Bronchitis, Simulating Phthisis—Premature Atheroma.**

GENTLEMEN—I have never, until now, seen the patient before us, and I will proceed at once to get the history of her case, as far as I am able, from her own lips:—

How long have you been sick, my good woman? "Since Christmas" (just three months). Were you quite well up to that time? "I was never sick a day in my life before." How were you taken ill? "I was out white-washing, and took cold." How did the cold trouble you? "I had a great cough." Was the cough the first thing you noticed? "Yes." Did you not have a chill first? "No sir." Had you nothing else the matter with you except the cough? "The change of life came on at the same time." How do you know that? "My monthly sickness had always been very regular up to that time, but then it stopped, and I have never seen it since." How old are you? "Fifty-two." Have you had children? "No, I have never been married." How old were you when your monthly sickness first appeared? "I do not remember." Have you always been temperate? "Yes, though I like a glass of ale when I am working hard." And a little punch sometimes when you go to bed? "Yes, sometimes." Did you have any pain in your chest when you were taken sick? "Yes,

some pain, and I got very weak." What kind of a cough did you have? "Dry and hard, at first." Did you have any spit? "Not at first, but afterward I had." What was it like? "At first it was white, and then it grew yellow and thick." Was there ever any blood in it? "No, none at all." Have you found that you have been getting at all short of breath? "Yes." Since how long? "About five or six weeks ago I first noticed it." Have you been confined to bed at any time during your sickness? "No." Has anything else been the matter with you? "My feet began to swell four or five weeks ago." Anything else? "No." Can you lie down completely in bed when you go to sleep, or do you have to be propped up with pillows? "I always cough a great deal when I lie on my back or upon the left side, but I can sleep very well lying on the right side." Have you lost flesh since you have had this cough? "Yes, a good deal." Do you know anything of your family? have they usually been long-lived? "They almost all live till over seventy. It never ran in the family to get sick, and there never has been any lung trouble among them."

(At this point Prof. Loomis asked four students, in succession, what they thought was probably the matter with the patient. One of them was of the opinion that it was a case of incipient phthisis, and the other three stated that they thought there was some heart trouble.)

As you look at this woman, you are at once struck by her extreme emaciation. She says she was never weighed in her life, as far as she can remember, and, therefore, it is impossible for us to determine how much flesh she has actually lost; but, from her appearance, I should say a very considerable amount. When you place your fingers upon the radial artery, you will perceive that the pulse is exceedingly small and feeble. There is also something peculiar about the pulse in this case. The artery feels hard and cord-like, and rolls under the finger. Now what is this due to? *Student.* "Disease of the artery." Of what sort? "Some trouble caused by Bright's disease." How would that cause trouble of this kind? "By the presence of urea in the blood." What would that do? "I do not know." If the nutrition of the artery were interfered with, what would result? "There would be degeneration of its walls." Of what sort? "Atheromatous." What do you mean by that? "I think it is the same as fatty degeneration." You think, then, that the urea in the blood acts on the walls of the blood vessels, and causes fatty degeneration in them? "Yes." This is impossible unless the nutrition of the vessels is first interfered with. But if this result occurred in such a manner in the walls of the arteries, it would follow that the same degeneration would take place in all the tissues of the body, because they all depend on the blood for their nutrition. No; you must reverse your process. The trouble begins in the arterial walls themselves.

Every case of degeneration of the arteries,

except it be due to old age, commences in an endarteritis. When there is degeneration of the blood vessels as the result of age, it is not confined to them, but affects all parts of the body, to a greater or less extent. Such degeneration is primarily fatty, and it is a perfectly natural process in one sense. But if the other form of degeneration occur at all in Bright's disease, it is in consequence of the irritation produced by the urea in the blood upon the walls of the arteries. There is first fatty, and then that results in atheromatous degeneration. There is a deposit of a cheesy substance, of a yellowish-white color, in the tissue, and this causes atrophy of the structure in contact with it.

Now, I believe that there is no evidence of approaching age so positive as the decay of the arteries. There are certain families in which degeneration of the arteries commences very early, and individuals belonging to such never live more than sixty years. A person with this tendency is as old at sixty, as far as the decay of the powers of life is concerned, as an ordinary individual at eighty or more. Such degeneration, you will understand, is not due to any arteritis, but simply to the effect of premature old age. The members of these families reach their prime at forty, and from that time begin to decline. The patient before us is only fifty, or a little over, as she has told us, and unless she belongs to such a family as I have described (which would not seem to agree very well with her statements concerning the family history), she has no business to have this degeneration of the arteries. But if there is syphilis, gout, alcoholism, or some other poisonous taint of the system, that is altogether a different matter.

The man who has a hereditary predisposition to phthisis, is to be congratulated if he attains middle life without exhibiting any manifestations of the disease, because he has lived through the period when it is most likely to become developed; but the troubles of the individual with a gouty diathesis only commence when he arrives at the age of forty. From that time on comes the period when apoplexy and similar troubles are liable to occur. From some cause or other, this woman is old for her age. It may possibly be due to hard work and the privations to which she has been subjected, or perhaps it may be due to some hereditary tendency to atheromatous degeneration. This subject, you will find, is scarcely touched upon at all by the books; yet the longer I practice and the more I see of men, the more and more am I convinced of its extreme importance. I cannot, therefore, impress too strongly upon you the necessity of studying most carefully the hereditary tendencies and the habits of life of those who are thrown in your professional care.

Now, let us make an exploration of this patient's chest. On inspection we find very marked emaciation everywhere, but there is no perceptible difference between the two sides, in the infra-clavicular spaces. The emaciation is

remarkable for the disease present here as to lead to the suspicion that it depends largely on lack of proper food, and on inquiry I find that the poor woman actually does not get enough to eat. This point must be taken duly into consideration, therefore, in making up our minds about the case. The patient is positive as to the fact that she never had any cough or shortness of breath, whatever, up to three months ago, and so it seems hardly reasonable to suppose that the loss of flesh is due, or mainly due, to whatever thoracic trouble there may be here.

On percussion in front, we find resonance on both sides; but the percussion note seems to be somewhat higher pitched on the left side than on the right. The heart appears to be perfectly normal in every respect, as far as we are able to make out. You notice that the breathing is a little hurried, and on auscultation behind harsh respiration is everywhere found. There is a sonorous blowing sound, which is due, undoubtedly, to some change in the larger bronchial tubes, and which is heard on both sides of the chest alike, all over the whole extent of the lungs; but there is nothing like bronchial respiration. When the ear is placed just under the left scapula, and the patient coughs, you hear abundant moist râles and bronchial expiration, but, as I said, no real bronchial breathing. The same is true upon the right side, under the scapula, but the sounds are not quite so marked there. The only thing that indicates anything at all like consolidation is this bronchial expiration, and I should not be willing to depend on that for the evidence of this condition. The inspiration is prolonged and harsh.

There is no retraction of the chest on either side, and there has, therefore, probably, been no pleurisy, and there is no evidence of emphysema. The diagnosis that we arrive at from the physical signs is bronchitis. But how can we explain the remarkable appearance of the chest from this diagnosis? Upon merely looking at this woman, without investigating her case, I think almost any one would pronounce her to be in an advanced stage of phthisis. Some one suggests that there may be disease of the kidneys; but, on carefully questioning the patient in regard to the matter, I cannot find any evidence, either in the history of the case or the symptoms now present, which would lead me to suspect any trouble of this kind.

To what, then, are we to attribute the extreme emaciation that is so marked a feature of the case? As before intimated, I think the only reasonable explanation is to be found in the lack of nourishment from which the patient has suffered; or, to put it in plain English, starvation. She has been a hard-working woman, and frequently subject to exposure, and just at the time of her menopause she seems to have taken cold and had an attack of bronchitis. Now, it has been observed that bronchitis contracted at that period is more likely to become chronic than under ordinary circumstances; and so it seems to have proved in the present

instance. The auscultatory sounds which have been noticed under the scapulae I should imagine to be due, in part, at least, to peri-bronchitis, the bronchial tubes having become thickened, and the inflammatory process having spread, to some extent, to the surrounding tissues. There is no phthisis about the case, unless you should call this bronchial phthisis, and I think this latter term should never be employed unless there is really fibrous induration of the lung in consequence of the peri-bronchitis.

The question next arises why the patient can lie on one side of the chest without exciting cough, and not on the other. I must confess that I do not find any satisfactory means to explain this, in the present condition of the thoracic organs. In pleurisy, patients can lie most comfortably on the unaffected side, after the acute stage is past; and when there is a pulmonary cavity, the individual always lies in such a position that the secretions will not flow out into the bronchial tubes, a circumstance which is very apt to excite a violent spell of coughing. It is well to remember that the act of coughing is excited invariably by some irritation of the larger tubes, and that the same irritation of the smaller ones does not give rise to it.

I will now ask one of the gentlemen of the class what treatment he would suggest in this case. *Answer.* "Cod liver oil, hydrocyanic acid, chloral, and good nutrition." Very much such a reply as has just been given, I think, would be that of not only a great majority of those present, who are principally students, but also of medical men engaged in active practice. And yet, it seems to me, that to commence the treatment with medicines, in such a case as this, would show that there was something wrong in the working of the mind of the individual suggesting such a course. There is not the slightest question that a change in her hygienic surroundings and plenty of good food are what this woman primarily needs; and, indeed, I will venture to say, that if you will only attend carefully to these points, your drugs can be left out altogether. As her general condition improves, her cough will become less and less troublesome, and though she may be affected with chronic bronchitis for the rest of her days, it will not occasion any serious detriment to her health. It is wonderful how this class of individuals improve under simple hygienic management, and I have often been astonished at the remarkable results produced merely by a temporary residence in a hospital. These people come from the most wretched quarters, where they have been surrounded by all that is most pernicious to health, and exposed to constant hardships, privations, and mental anxiety as to how soul and body are to be kept together; and as soon as they are admitted to our hospitals, where they have comfortable beds, reasonably good food, and freedom from care and worry, they become different persons altogether. This entire change in their condition is often effected without any medication whatever.

## GUY'S HOSPITAL, LONDON.

REPORTED BY JOHN B. ROBERTS, M.D.

### Double Amputation of the Legs for Gangrene Following Frostbite.

UNDER THE CARE OF MR. BRYANT.

This man, aged 28 years, was exposed to the cold for four days, it is said, and was during that time without food. When admitted to the hospital, five days ago, his feet had been frozen, as was evident from their anæmic and wax-like aspect; and that gangrene would occur was equally certain. The patient, who was greatly depressed, was given good nourishing food, and topical applications were employed. At the time of operation sloughing had commenced, and a pretty distinct line of demarcation was exhibited. The general condition of the man had improved at the same time, however, and the question of amputation, therefore, came up for decision. It was almost a hopeless case, but on the whole it seemed advisable to remove these two gangrenous feet, which were filled with septic material, and thus prevent further depression of the system, by the absorption of putrid matters. Of course, it must be amputation of both legs, and as it was to save life, the operation must be done as low as possible, hence the sloughing parts should be removed a little above the line of demarcation, which was about the middle of the legs. The right leg was elevated, to drain out the blood, and a gum band used as a tourniquet around the thigh. Lateral flaps of skin, with a circular division of the muscles, were then made. Next the periosteum was turned up with the raspatory and the bone sawn through. Torsion was employed, to arrest hemorrhage, which had to be completely checked, since immediate union was desired, as suppuration would cause such a disastrous drain. After the flaps were sutured in position, a skein of horsehair was passed through with a probe, to give free drainage in case suppuration of any account should occur. Dry lint was then placed over the stump, and splint applied, to steady the parts; after which a sponge soaked in carbolic lotion was adjusted over the end of the stump, outside of the lint. A similar amputation was done on the other leg, but it was necessary to remove it further up, because the parts were infiltrated higher. There was rather more hemorrhage, and a few catgut ligatures were used when torsion did not seem efficient. Capillary hemorrhage was controlled by applying a sponge which had been dipped in hot water. This was to check the oozing, and cause glazing of the cut surfaces. The subsequent dressing was the same as that used for the other limb, and consisted of dry lint in strips, a splint and the external carbolic sponge, which were adjusted after the sutures and horsehair drainage had been properly applied. As stated, this case was almost hopeless, but operation seemed to be the only method by which the sailor, in his present



condition, could be given a chance of life. In a few days time only, can it be told whether his system will react from the great shock caused by the exposure, the gangrene and the resulting double operation.

## MEDICAL SOCIETIES.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Specially Reported for the MEDICAL AND SURGICAL REPORTER.

At a Conversational Meeting, held March 13th, 1878, President Henry H. Smith in the chair, a paper was read by Dr. William S. Stewart, entitled, "Some Considerations in Regard to the Causes of Cholera Infantum." (See vol. xxxviii, p. 471.

The Chairman said that among the causes of cholera infantum must be mentioned the condition of the system that accompanies teething. It occurs in the lower animals, and he had seen it among monkeys in a menagerie; in the latter case it had been relieved by lancing the gums. In reply to a question from Dr. Allis, as to the results of feeding with a spoon, he would say that the action of the jaws in sucking is necessary, to discharge the saliva from the glands under the jaw; this would not be done in feeding with a spoon, and he believed that such a practice might favor indigestion and diarrhoea.

Dr. J. M. Barton understood that some one had spoken of sewer gas as being seen; this could not be. The ventilation of sewers by making a draft downward, as recommended by the lecturer, he did not consider practicable, on account of the lightness and tendency to diffusion, of the gas.

Dr. Stewart believed ventilation to be practicable, as suggested by Professor Waring, with double traps and pipes running from the sewers to the tops of high chimneys of manufactories, etc. His own idea was to do away with this, and let the sewers be ventilated at their outlets, as at Frankford.

Dr. Nancrede said that cholera infantum should not be confounded with enterocolitis, which is so common among the infants of cities during the summer, and which may even be accompanied by congestion of the brain. Cholera infantum resembles sporadic cholera in adults, and comes on suddenly, without any error in diet having been committed, and is most frequent during periods of intense heat. The greater number of cases reported as cholera infantum are really enterocolitis, and are connected with improper feeding and the causes referred to.

Dr. Benjamin Lee was especially interested in the hygienic care of children in cities, but at the same time did not believe that any amount of hygienic precaution could entirely prevent cholera infantum. Observation had shown him that intense heat is the sole cause of this disease,

and the only way to manage it successfully is to reduce the bodily temperature of the child, by means of baths, thin clothing and proper food, and by any method that favors evaporation from the surface. The etiology is the same as of cholera; the intestinal trouble is secondary, and results from disorder of the nervous system.

Dr. R. A. Cleemann agreed with Dr. Lee, that cholera infantum is principally due to atmospheric influence. He noticed that, in London, a number of cases are reported as infantile diarrhoea during the summer months, accompanying a temperature that would not bring out cholera infantum here; but the degree of heat required to bring on the disease there is at least five degrees of Fahrenheit below that of Philadelphia.

Dr. John G. Stetler thought that country districts should be affected as much as the cities, if the high temperature were the sole factor.

Dr. W. R. D. Blackwood believed that personal cleanliness had much to do with the susceptibility of children to cholera infantum. Every child under five years of age should be bathed every day, and in his experience such children were less liable to be attacked. Heat has a great deal to do with the causation, but during a long residence in the South he never saw as much cholera infantum as we have here. He thinks it is due to the houses being heated by the sun during the day and radiating the heat at night. It is hotter during the night in some of our city courts than it is in the daytime. Children should be kept cool and much in the open air, and frequently sent to the park during the heated term. He differed from Dr. Cleemann about the occurrence of this disease in Europe. An English physician, on a visit to Philadelphia, told him that he never saw anything like it at home.

In using nursing bottles, he prefers the black rubber nipple, and always uses two, ordering them to be washed as soon as used, one being in soak in a baking-soda solution, while the other is on the bottle. He believed that some children are killed by much diluted condensed milk; good, fresh, unskimmed milk is much preferable.

Dr. William B. Atkinson said that on account of the heated nights in the city, the children had not time to recover from day to day, but were completely prostrated; this cause does not exist in the country, or at the seashore. He agreed with the preceding speaker in regard to bathing, both winter and summer; but differed from the lecturer in regard to foul air being the cause, because he has never seen a case in "the Neck," where the odorless excavators are emptied, although the smell is constant. In feeding infants he condemned the tube and white rubber nipple, and said if he could not have black rubber, he would prefer feeding with a spoon.

Dr. O. H. Allis did not believe that there was any functional activity of the salivary glands until the eruption of the teeth, and that previous to this the infant has little need for the buccal secretions.



Dr. C. B. Nancrede said that true salivary secretion does not appear until the fourth or fifth month; previous to this it contains no ptyalin.

Dr. William M. Welch referred to the recent edition of "West, on Diseases of Children," where the statement is made, by Dr. Eustace Smith, that the saliva does not appear until the third or fourth month, this being given as a reason why infants should not be fed on farinaceous food.

Dr. R. B. Burns said that the chief objection to the spoon is, that you could not feed without disturbing the child, but this can be done with

the bottle. He believed heat to be the principal cause of cholera infantum, and teething to be a coincidence. Dr. Atkinson said that an exemption exists from the disease in "the Neck;" it is not so in Frankford, where his father practiced for many years, and he saw such cases frequently.

Dr. Stetler said that in the country where he was brought up, they used to rear children upon pap and feed with a spoon, and it was very effective. They did not have nursing bottles in those days, but the children thrived just as well as now.

## EDITORIAL DEPARTMENT.

### PERISCOPE.

#### Pneumonia and Epidemic Diseases.

At a recent meeting of the Epidemiological Society of London, Dr. William Squire read a paper on the relation of pneumonia to epidemic diseases. He said that pneumonia is not specially a disease of cold weather or of cold climates; like phthisis, it occurs with greater proportional frequency among dense populations; but, unlike phthisis, the mortality is not evenly distributed throughout the different months of the year. Nor does the seasonal mortality from pneumonia correspond with that for bronchitis, which increases in cold times and places, but follows a course very similar to that for some epidemic diseases. In northern towns, many cases of broncho-pneumonia in the very old and very young are included in the pneumonia returns, making them higher in the winter than in the spring; latterly, with more precision in the diagnosis, we find a progressive increase in the returns from bronchitis, with the highest mortality in January; and a decrease in returns for pneumonia, the greatest mortality occurring always in the spring. Among epidemic diseases, small pox and whooping cough, are found invariably to have their greatest increase in the spring. Scarlet fever as invariably increases at the end of summer, and is most fatal in the autumn. Measles has both a summer and winter recrudescence. Enteric fever is an autumn epidemic, and not coincident with pneumonia. It was with typhus and not with enteric or typhoid fever that von Ziemssen associated pneumonia; their decrease in London, as noticed by him, coincided with the enforcement of the Common Lodging House Act; but typhus prevails without pneumonia and pneumonia without typhus. The diseases which correspond more nearly with pneumonia are

puerperal fever, erysipelas, quinsy, and croup. The pneumonia frequently fatal after measles, and which complicates whooping cough and diphtheria, is of the catarrhal or secondary kind; this should be considered as part of the diseases it complicates; it has no appreciable influence on the pneumonia returns. Acute primary lobar pneumonia is, according to the author's experience, not rare in children; part of the large infantile mortality from pneumonia may be fairly attributed to it. A marked difference between the acute primary pneumonia and the secondary or catarrhal form is found in the temperature chart of the two diseases, constructed from numerous cases of both kinds at all ages. In catarrhal pneumonia, three, four, or more days of moderate fever lead to a central peak of 103 deg., or rarely 104 deg., and never long maintained at that point, but subsiding as free expectoration is formed. True pneumonia commences with a temperature of 103 deg., even on the first day of chill, and before the local signs of the disease are distinct; the temperature then rises suddenly to 104 deg. or to 105 deg., and is steadily maintained at or near this height, with no marked evening exacerbation, for six or seven days, and then descends by two steps to the normal, the first descent preceding any marked improvement in the lung. This typical temperature course is found equally in sthenic and asthenic cases, whether produced by foul air or by chill, in children of from one to five years of age, as well as in adults. It is not necessary to assume a specific poison for pneumonia because of this marked course; the definite duration, the cessation of the general febrile disturbance before the subsidence of the local mischief, and the tendency of that to disappear after the febrile stage is over, are all found in diseases not brought about by an infecting germ. Nor is the difficulty of producing pneumonia by direct irritants, as in the experiments of

Heidenhain, a sufficient reason for such assumption; the changes noted in the lungs by Friedländer, after section of the vagus and recurrent nerves, has a closer bearing on the subject. Many conditions of fatigue, chill, malaria, and constitutional change may lower nerve-tone and predispose to an attack of pneumonia. In its tendency to affect some persons more than others and to recur, it resembles erysipelas; both are found in local outbreaks associated with circumstances of defective hygiene. All these considerations remove pneumonia further from the local inflammations, and correlate it with the general diseases more directly under the influence of conservative medicine.

#### The Dietetic Treatment of Serous Effusions.

In the *Lancet*, December, 1877, Dr. W. B. Cheadle details some clinical experiments on the limitation of fluid in the food as an aid to the treatment of serous effusions, and concludes his paper as follows:—

The cases here reported are too few in number, and the experiments too limited in scope, perhaps, to furnish any complete and final proof of the exact value of the treatment adopted. But one or two results come out very clearly, and are sufficiently striking and important to merit further examination, viz.—

1. The fact that, in cases of serous effusion, at any rate, if the fluid taken into the body as drink be limited to a small quantity, an amount of fluid can be drawn out of the body by the stomach and bowels, greatly in excess of that thus put into it at the time.

2. That, although the excess of fluid thus drawn off may be obtained, to some extent, at the expense of the other secretions, or the blood, the simultaneous subsidence of the dropsical accumulations, and the absence of any other sufficient source of supply, show that it must have been chiefly derived from the latter.

3. The proportion of outflow by urine to inflow by drink, or the gain in drainage by the kidneys, was always greater when the fluid taken in as drink was reduced below twenty ounces; and more than this, that the gain in drainage was in inverse proportion to the fluid swallowed.

4. The greatest drainage, i. e., the greatest excess of outflow over inflow, was attained in each case under the administration of digitalis.

5. The reduction in the gross outflow of urine was always less in proportion than the reduction of inflow by drink, with which it corresponded; and, conversely, the increase of urine was always less than the corresponding increase of inflow by drink. The latter result may, however, have been affected by the previous privation. While it appears, therefore, that in these cases the drainage by the kidneys was generally effective in inverse proportion to the quantity of drink swallowed, and that under the influence of digitalis a greater excess of outflow by urine over inflow by drink was ob-

tained when the latter was limited to from five to sixteen ounces than when twenty to thirty ounces were taken, it does not necessarily follow that the same rule would hold good if larger quantities of fluid still were taken. It is possible that the additional quantity taken in may be more than compensated by increased outflow, under the action of purgatives and diuretics. The enormous discharge of urine in the first case, under the influence of digitalis, for two days before the drink was limited, would at first sight seem to support this view. But although, owing to the amount of drink not being measured, the means of accurate comparison are wanting, if we take the lowest average of 30oz. = 849 cc. as the quantity of drink, it will be seen that the excess of inflow over outflow was 451 cc. and 195 cc., or an average of 1100 cc., as compared with 2157 and 1357, or an average of 1757 cc. for the two days next following, when the fluid was limited to sixteen ounces. The presumption furnished by the evidence in these cases, and especially by the record of the last, during the period when drink was unlimited, is against the view that the diuresis would be increased in proportion to the increased supply of fluid—that is, “water in the best diuretic.” But experiments as to the effect of diuretics, and especially of digitalis, together with a free and large supply of drink, are necessary to clear up the point satisfactorily.

It is remarkable that the suffering from thirst should have been so slight. The restriction of drink caused no serious distress in any case, and the discomfort experienced was relieved and fully compensated for by a few acid drops, except in the fourth and fifth cases, in one of which there was advanced renal disease, and in the other much fever.

It is further worthy of note that the limitation of drink did not produce any great diminution of the gross quantity of urine in the case of renal disease, nor any symptoms which would forbid the adoption of such treatment on occasion in similar cases. It would be desirable to ascertain the effect of the restriction on the excretion of urea.

Finally, then, limitation of drink may fairly be used as an adjunct to treatment in cases of passive dropsy or inflammatory effusion when the acute stage is over. In acute cases, accompanied by much thirst and fever, such restriction would probably be ill borne. In serious renal disease I should hesitate to adopt it, except with much caution and constant estimation of its effect upon the gross excretion of urea.

#### The Use of Carbolic Acid in Typhoid Fever.

The *London Medical Record* says: In *Lo Sperimentale* for January, Dr. C. Tempesti relates two cases illustrative of the use of carbolic acid in enteric fever. They were observed during an epidemic of the disease which prevailed in 1875.

The first patient was a girl, aged ten. The

ordinary symptoms of the disease had been present several days, when, in the course of the second week, there appeared nocturnal delirium, epistaxis—often abundant, diarrhoea, depression, stupor, bronchial catarrh, sordes on the nostrils and teeth; and there was hemorrhagic discharge from the gums, fauces, and tongue. Recourse was had to clysters of cold water and to painting the parts inside the mouth with a solution of two parts of carbolic acid in one hundred of water; but the disease obstinately resisted all treatment. Dr. Tempesti then decided to give the patient the solution of carbolic acid as a drink; she took it with avidity, and in a few hours half a drachm of carbolic acid had been taken. The next day all threatening symptoms had disappeared, and the patient asked for food. Half a drachm of carbolic acid was again given in solution; two weeks later the patient was convalescent, and soon completely recovered.

The second case also occurred in a girl aged ten, who was the subject of very severe typhoid fever with dissolution of the blood. The internal use of carbolic acid was prescribed; but through the prejudice of the friends the administration of half a drachm of the acid was spread over five days; hence the medicine was useless, and the child died.

Dr. Tempesti sums up in the following conclusions.

1. Carbolic acid may be a remedy of much value in cases of typhoid fever in which death is threatened (the putrid state of old writers), and is worthy of being subjected to clinical research.

2. The dose must be sufficiently high (half a drachm or a drachm daily in ordinary drink or in abundance of water). Small doses (perhaps in consequence of the nervous stupor which prevails in typhoid fever) are of little or no therapeutic efficacy.

#### Iodine Injection of the Knee-Joint.

Dr. Orlov states (*St. Petersburg Med. Woch.*, April 6) that he has performed this operation in ten cases—in eight on account of chronic serous effusion, and in two for purulent collections. In none of them did any ill effect result, the patients being at once dismissed after the injection had been made. Two of the cases occurred in children, and the others in persons aged from twenty-six to forty-five. Seven were females, and three males. A trocar (about double the thickness of an exploratory trocar) was employed, the puncture being made at the outer side above or below the patella, according to the amount of distention, anaesthetics never having been employed. The discharged fluid varied in amount from four ounces to four drachms. The injection consisted of one drachm of the tincture of iodine, of the Russian Pharmacopoeia, and three drachms of water. Some portion of this flowed out again after two or three minutes, and that which remained in the joint excited but slight temporary irritation, so

that the patients were able to leave the dispensary on foot. The inflammatory condition of the joints was rapidly ameliorated, and during eight months no relapses have taken place, the only after-treatment resorted to having been closure of the orifice of the puncture by adhesive plaster.

#### Treatment of Infantile Diarrhoea.

Dr. Blache, in the *Journal de Therapeutique*, gives the following as his treatment in all cases, modifying it according to circumstances.

1. Reduction of the quantity of food given; suitable injections, repeated according to need, and poultices on the belly.
2. The administration each morning, during three, four, or five consecutive days, of a small teaspoonful of equal parts of castor oil and syrup of gum arabic, simply emulsified by shaking the bottle at the time it is used. When the child is under six months old, one gramme (15 grains) of castor oil is enough for a dose; and if from six months to two years old, from two to three grammes are necessary. If after the second day the diarrhoea be less but have not entirely disappeared, no more of the medicine should be given than on the day before. On the other hand, if the stools be particularly fetid and glairy, another dose must be given on the same evening, as well as on the next day. If the case be one of profuse liquid diarrhoea, recurring twelve, fifteen, or even more times in the twenty-four hours, the mixture must be altered, doubling or trebling the dose of gum, and adding a little vinum opii, from one to three drops, at the most, according to age, in the four-and-twenty hours, and the medicine must be repeated every two or three hours. The object or effect of this castor-oil treatment is to cleanse the mucous membranes, which it modifies, without, however, purging, in the general acceptance of the term. Injections are equally useful. First, a large injection of camomile tea is given, followed in twenty minutes by a small injection of starch. These are repeated whenever a series of four or five actions of the bowels occur in the space of from six to ten hours. In the latter case bran of marshmallow is substituted for camomile. As to the absorbents, more especially bismuth, so often used in these cases, M. Blache distrusts them, as they may bring on convulsions, doubtless, by preventing the cleansing of the mucous membrane.

#### Ovariectomy in Children.

At the London Obstetrical Society, recently, Mr. Marsh remarked that Mr. Spencer Wells had operated successfully on a child eight years old, and that there was a case recorded in America of the age of seven years. Another case, in a child of three years, ended fatally. He had been told that M. Basil, of Bonn, had performed ovariectomy on a child two years of age. He added that most, if not all, of the cases were examples of dermoid cyst.

## REVIEWS AND BOOK NOTICES.

## NOTES ON CURRENT MEDICAL LITERATURE.

—Dr. B. London, of Carlsbad, Austria, reports in a separate publication several cases of perforating ulcer of the stomach healed by the regular use of the waters of that famed health resort combined with a systematic use of milk diet.

—"Pathological Dentition," by Dr. James S. White, is an illustrated article from the *Obstetrical Journal of Great Britain and Ireland*, indicating the complications to which dentition may give rise, the proper method of lancing the gums, etc.

## BOOK NOTICES.

**Physics of the Infectious Diseases.** Comprehending a Discussion of Certain Physical Phenomena in Connection with the Acute Infectious Diseases. By C. A. Logan, A.M., M.D. Chicago, Jansen, McClurg & Co., 1878. 8vo, cloth, pp. 212. Price \$1.50.

Dr. Logan was U. S. Minister to Chili for four years, and in the leisure of his South American residence, we presume, elaborated the theory which he has written this book to promulgate. To our mind it is a lamentable example of superficiality and presumption. We characterize it thus with regret, but that we do so with justice, will, we believe, be evident from the following brief argument.

Dr. Logan first depicts the physical aspects of the western coast of South America, laying especial stress on its earthquakes and volcanoes; he then sketches the sanitary history of the same region, and undertakes to explain the latter by the former, and on this explanation to erect a general theory of the etiology of zymotic disease.

To lay his foundation, he boldly dismisses the explanations of the phenomena of volcanoes and earthquakes which all leading geologists

unite in receiving, and replaces it by an "electrical" one; he assumes for ozone a part in relation to disease for which he acknowledges there is no consensus of opinion; he seems to think that the invention of such meaningless terms as "vital gravitation," "volcanic pile," "earthquake lightning," adds something to knowledge; and a general desire to ignore well known principles of the relations of climate, soil and social life to the public health is shown, in order that he may supplant them by a recondite, metaphysical and crudely stated theory. The book will add nothing to the credit of the author, nor to physical or medical science. It is not by flippantly denying the results of long years of special labor in other branches of science, that the medical philosopher must begin his labor, if he expects it to merit praise.

**Nervous Diseases; Their Description and Treatment.** By Allan McLane Hamilton, M.D., etc. With Fifty-three Illustrations. Philadelphia, Henry C. Lea, 1878. 1 volume. 8vo, cloth. pp. 512.

The author of this work has been long known to the medical readers of this country as an able, practical writer on nervous disease, and he has done well to combine the fruits of his extended studies in a volume. After an introduction on the examination of the patient, and a description of the instruments used for the purpose, he proceeds to the diseases of the nervous system, commencing with those of the cerebral meninges, then of their contents, the cerebrum and cerebellum, proceeding thence to the spinal meninges, the cord, bulbar and cerebro-spinal diseases, and diseases of the peripheral nerves.

The portraiture of a disease is usually aided by a description of one or more typical cases, and marked physical peculiarities are often made the subjects of wood-cuts taken from photographs from nature. Much stress is laid on the microscopic investigation of pathological products, and the appearance and signification of such changes, so far as they and their bearings are ascertained, are entered into with all desirable fullness. A wide acquaintance with the recent literature of nervous disease is manifested throughout, and an attempt, and a successful one, is made, to do away with much of the obscurity and confusion arising from physiological themes which clouds several of the more popular recent works on the same subject.



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D. G. BRINTON, M.D., EDITOR.

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**IMPROVED EDUCATION OF PHARMACISTS.**

The Board of Trustees of the College of Pharmacy, of Philadelphia, have decided upon a junior and senior course of study. The junior students will have to pass an examination in all the branches before they can enter the senior class, and the instruction given to the senior class will include a wider range of scientific subjects than it has been possible to give heretofore. This system will go into effect in October. This is as it should be, and we have no doubt will prove a successful move.

It is high time that the vocations of the pharmacist and the physician be recognized as two wholly and distinct careers. The doctor is yet, in many places, physician and apothecary in one, and the saddlebag system of dispensing medicine and advice has done the pioneer work in many a now thronged and prosperous locality. It was indispensable; it may be so yet, on the frontiers; but when not necessary, the custom should be discountenanced. Pharmacy is too complicated, too delicate, too difficult a science, to be made any longer an appendage to a medical education, or to be taught in any other than a superficial manner in medical schools. Pharmaceutists should be men highly trained and specially given to their delicate and responsible work; for more delicate or careful work than the compounding of prescriptions can hardly be named; the apothecaries bear the people's lives in their hands, and the subject is one of real consequence to every person.

The physicians of this country are called upon to encourage the separation of the two vocations, in their own interest. They cannot, indeed, do away with the "counter prescribing" of the apothecary. Accidents and cases of sudden illness are brought to him, and while the physician may be at once summoned, it is still necessary, at least it is desirable, that the apothecary should be able to take the place of the doctor for the time, and do the needful professional offices.

It has come to this, indeed, that the apothecary

cary has indirectly a large amount of practice. People drop in upon him for all kinds of medical advice, and in thousands of cases apothecaries have a degree of trust reposed in them which is not proper, unless the party is a man of exceptional intelligence and education. Nor is this the case only in villages and sparsely populated neighborhoods; in such sections the practice thrives, through the inability at all times of easily securing a physician; while in the cities it is almost equally common, through accidents, and through the poverty of many persons who cannot consult a doctor, and yet are too proud to apply to the dispensaries. From one reason or another, it is known that apothecaries have a great deal of "practice," and it is a state of things not easily to be remedied. Nevertheless, we believe that an amicable understanding on this vexed subject is possible, and can be effected in any given locality by arrangement between the leading persons interested.

Another frequent and just cause of complaint by the physicians is that druggists injure the community by selling harmful patent medicines. The pharmacists in England have themselves taken steps in this matter. At one of their recent conventions the importance was urged of fixing some legal limits to the wholesale poisoning of the public by patent medicines. It was proposed that, even if it be impossible altogether to suppress the reaction of dishonest quackery upon vulgar superstition, the venders of nostrums be compelled to divulge the composition of their wares, and prevented from publishing mischievous and mendacious advertisements concerning them. Among the examples cited, including sundry "hair restorers," which, in direct contradiction to their advertised pretensions, contain poisonous quantities of lead, the most glaring one is a largely certificated "Sure Cure for the Opium Habit," which is found, on analysis, to give two grains of morphine to the dose, recommended to be taken thrice a day.

It is scarcely to be expected that American apothecaries, most of whom derive a large part

of their income from the sale of these secret nostrums, will join in this movement at once, but it would be well if the American public were taught that ninety-nine hundredths of the proprietary medicines which flood the market are the products of uneducated impostors, and are either wholly inert or positively deleterious. Some steps in this direction have already been taken by the National Pharmaceutical Association. With further elevation in the education of pharmacists, most of them will acknowledge the utility of such a movement.

## NOTES AND COMMENTS.

### The Normal Inequality of Lower Limbs.

The editor of the "Proceedings" of the King's county Medical Society for June, remarks: Probably the first trial for malpraxis, that ever hinged on this fact in nature, transpired recently in Perry county, Pa. Suit had been brought because of a shortened femur, after treatment, of five-eighths of an inch. The defendant's witnesses testified that a want of symmetry in legs frequently existed where there had been neither fracture nor injury. The cause was non-suited without delay, and "the imperiled surgeon went free." Drs. Agnew and Hunt, of Philadelphia, testified that they had measured many limbs and had found them unequal, without previous fracture; the brother of the plaintiff, whom they chanced to measure, had a normal difference of three-eighths of an inch. This trial is destined to become widely known, and to materially influence the history of this class of suits for malpractice. The researches of Dr. Jarvis S. Wight, of Brooklyn, will be long remembered in this connection.

### Warning Against the Hypodermic Use of Morphia.

Dr. Levinstein, of Berlin, says, in his late work on the "morphia mania," *morphiumsucht*, that it is generally caused by hypodermic injections of the drug, given by the medical attendant during illness, to relieve pain, and continued by the patients themselves after the actual need of it has disappeared, for the sake of the mental excitement it produces. The danger involved was not generally suspected during the first years of the use of the new

means of administration, but the existence of the *Maison de Santé* under the medical direction of the author, which is devoted to the cure of sufferers from this craving, shows how large its evil effects must already be. The sufferers feel quite well for a certain time while using the narcotic, but before long evident symptoms of disease appear. The patients become emaciated, the complexion ashy or dark red, the eyes lack lustre, and vision is often deranged; thirst, nausea, and loss of appetite, constipation, and the secretion of albumen by the kidneys, impotence, a form of delirium tremens different from that caused by alcoholic excesses, intermittent fever, and great derangement of the moral character, are among the morbid appearances produced.

#### An Early Symptom of *Tabes Dorsalis*.

Dr. Berger has a note in the *Centralblatt für Med. Wis.*, relating to an early symptom of *tabes dorsalis*, which is described as consisting in the disturbance of the perception of pain of such a kind that stimuli of slight intensity, as well as tactile impressions of a slightly painful kind, such as needle-pricks, are perceived normally; but that more severe and often very strong stimuli produce no greater pain. This analgesia in respect to excessive stimuli may be present before other symptoms of *tabes* appear, and is of semeiotic importance. This peculiarity, as a common rule, is especially perceived in the skin of the lower extremities, and may finally be observed on the whole cutaneous surface, and even on the mucous membrane. It appears to be a symptom depending on an initial lesion of the gray substance.

#### Deaths from Anæsthetics.

The English medical journals of recent date record a death each, from ether, methylene, and chloroform.

That from ether occurred at the London Hospital, in a patient about to be operated on for hernia. Ether was administered by one of the house-surgeons; the patient was readily brought under its influence. There were no untoward symptoms of any kind; the examination was proceeded with. The man breathed quietly and regularly for a few minutes, and then gave one sudden catching effort at inspiration, and died, in spite of every effort to save him. It is noteworthy that his pulse continued to beat for about thirty seconds after breathing had ceased.

At the autopsy the heart was found firmly contracted. There was no strangulation, though the gut showed marked traces of having been tightly constricted.

In the death from methylene the victim was a retired officer of 40 years of age, in apparently perfect health. The death was perfectly sudden and inexplicable, and it shows that this anæsthetic is, like chloroform, a poison to some persons of a peculiar idiosyncrasy, and will cause death without any apparent physical reason.

#### Alcohol as a Mental Stimulant.

A writer in the *Lancet* says: The brain must be fed and nourished by special design. An adequate supply of oxygen is the preliminary requirement. Then comes the question of food: and, whatever else may feed the brain, workers with this organ should be assured that alcohol will not sustain it. Alcoholization and oxygenation are directly antagonistic processes; and even if alcohol be food for the brain, the organ cannot feed when the nutrient fluid circulating in its vessels is disabled from the task of conveying oxygen, which happens whenever spirit is present in more than very moderate proportions in the blood. The relief afforded by alcohol from the sense of depression produced by a lack of oxygen, is, therefore, illusory. It is procured by over-stimulating an organ which is both exhausted and impaired.

#### The Etiology of Membranous Dysmenorrhœa.

At a meeting of the Obstetrical Society of London, Dr. Cory recorded a case which strongly supported Dr. Hausmann's view that such are due to imperfect impregnation. The patient, previous to her marriage, at the age of thirty, had never passed any membrane. She aborted three times, between the second and third months, during the first two years of married life. Since then she had almost invariably passed, at her menstrual periods, membranes, which proved to be very perfect casts of the uterine cavity, and presenting all the naked-eye and microscopical appearances of its mucous lining. The membrane usually came away on the second day of menstruation, previous to which the dysmenorrhœa was acute. Later on she lived apart from her husband for nine months, during which time she had menstruated regularly without passing any membrane.

## CORRESPONDENCE.

## The Doctrine of Malaria.

ED. MED. AND SURG. REPORTER :—

In reviewing a communication from A. S. Stonebraker, M.D., of Waco, Texas, published in the MEDICAL AND SURGICAL REPORTER, I find that his views differ widely from any previous writer upon the physiology of the nervous system, and are contrary to well established facts in medical philosophy.

He sets out in favor of the humoralistic teaching of Andral, and then, in the next place, denies the participation of the vascular system in the morbid process instituted by the action of malaria, and again endeavors to explain the *modus operandi* of the agent, upon the principle of nervous influence, rejecting all of those great truths in physiology in relation to the function of the nervous system.

I quote him; "The profession has, for ages, attributed all periodical fevers to the action of miasma, absorbed and taken up into the circulation; a theory I have not, from observation and experience, been able to endorse."

Compare the above with the following. He says; "I will submit as a fact demonstrable, that the blood is simply a vehicle, which conveys the morbid agent." Has no absorption taken place? Through what channel has the agent been able to reach the blood, to be conveyed throughout the system? Again, he says: "The morbid agent called malaria is conveyed through the circulation of the blood, to the nervous system, for which it has an elective affinity." This statement is in opposition to well authenticated facts. According to a multitude of experiments, by eminent physiologists and chemists, such as Vandeen, Stilling, Vallani, and others, no poison has been discovered in the circulation of those animals destroyed by its effects.

In the next place he speculates, at length, upon the probable origin of miasma, and his "morbid electrical fluid," which, after forming certain unknown combinations, acquires the wonderful capacity of penetrating the organism, (in what way he does not say) and exciting therein its deleterious effects.

He admits that the agent is brought in contact, and makes its impression upon the sentient extremities of nerves, but has never suspected that it was unnecessary for the poison to penetrate the organism, and enter the blood, in order to reach the extremities of nerves, and fails to pursue the course of this primary impression, until it produces its ultimate effects upon remote parts, but persists in locating his cause, "the electric fluid," in the substance of the nervous tissue, generally, and that it then becomes endowed with the remarkable property of growth and expansion, and discharging itself at stated periods.

Where do we find the "sentient extremities" of nerves more bountifully supplied than upon

the skin, mucous membrane of the alimentary canal and lungs. Impressions made upon either surface produce those remarkable effects we witness when they are introduced in the novel way indicated by the doctor. Has he not long since observed the analogies between the effects of the local action of irritants upon the above surfaces, and those produced by the action of his "electrical fluid." Has he not observed the phenomena developed by intestinal worms, difficult dentition (convulsions), the pricking of a tendon (tetanus), or the inhalation of foul odors, or disgusting sights, in producing vomiting. When impressions are made upon sentient nerves no phenomena can possibly result, without the aid of motor nerves, and as the sensitive nerves cannot transmit a motor impulse, it follows that a circuit of reflex action must be established, through a nervous centre, which fact he seems to ignore altogether.

Morbidic, as well as all other agents of positive virtues, make their impressions upon the sentient extremities of nerves, distributed to all parts of the body, wherever they may be applied, which impression is transmitted to a nervous centre, where a power is developed, known as the nervous power, and modified in accordance with the virtues of the agent which bring it into operation, and when reflected through motor nerves, upon remote organs, they alter the vital properties from their natural physiological state to the speedy development of disease.

On page 226 the Doctor virtually abandons his former propositions. He writes: "I am not sure that it is necessary for the miasma to be absorbed to produce its effects on the human economy, but it may operate by making its impression upon the sentient extremities of nerves." Appearing not to accept the fact that the impression must be transmitted to a nerve centre, and reflected through motor nerves, before muscles, subdued to volition, can be influenced thereby. The shock he speaks of takes place when certain agents operate, such as prussic acid, a blow upon the stomach, etc., but it is not upon the nervous system, but through that system upon voluntary muscles, that its force is spent. The law of reflex action substantiated by Brown-Séquard, Jackson, Phillips, Muller, does not seem to answer his purposes in explanation of the phenomena.

We now have the nervous system compared to an electric battery, but by what physiological process the physical effect is brought about, does not quite appear.

The extent of expansion of the "noxious electric fluid" upon the nervous system remains to be proven; and when he says that the primary impression is a "rigor and shrinkage of parts," he doubtless meant the primary effects of the morbid agent was rigor, shrinkage of parts, etc., for physical phenomena cannot be developed by impressions upon sensitive nerves alone, but the impression must be transmitted also through motor nerves, to the proper irritability, before motion can possibly take place.



In accounting for the periodical return of the phenomena of a paroxysm of an intermittent fever, he considers the nervous system a great receptacle, which becomes charged with a noxious fluid from extremities of the sensitive nerves, and then passes it off by the same channel, until the charge has been exhausted, and further states that if a "portion of the fluid remains," it becomes endowed with the remarkable faculty of growth and expansion, and soon assumes a volume as formidable as before, and is again discharged, producing the wonderful phenomenon of an ague only during its discharge.

As the doctor ignores the absorption theory, how will he account for the presence of his wonderful agent in the blood, and how does he propose to effect a cure by the negative electrical property of quinia when chemistry does not accord to it any such property. If it possesses that property, we must accord the same to all other agents which produce sensible effects upon the animal organism. For instance, the mental, emotion-like morbid agents are capable of producing disease; shall we ascribe to these causes the electric property! The operation of moral causes, as well as that of morbid and remedial agents in the production and cure of disease can be explained by no other philosophy than that I have already indicated; that is, that all morbid and remedial agents make their impressions upon the sensitive system of nerves, which impression is transmitted to the nervous centres, the brain or spinal cord, or both, and there develops and modifies the nervous power in such a manner as, when it is reflected upon remote organs, through motor nerves, it alters the organic properties of those organs in a manner peculiar to such operating cause or agent. No two can be said to produce exactly the same phenomenon. If malaria is in operation, a paroxysm of intermittent fever will be the result. If mental emotions, prussic acid, opium or ipecac be in operation separately, the effects produced will always conform to the special virtues of each. A blister or a seton need not be absorbed to produce those remarkable effects which we witness when they are applied to the surface.

Arkadelphia, Ark.

T. J. SCOTT, M.D.

#### The Contract System and the American Medical Association.

##### ED. MED. AND SURG. REPORTER:—

In the REPORTER for May 18th, under the head of Queries and Replies, some one asks, "Is it a violation of the Code of Ethics for physicians to bid against each other for the pauper or poor practice, etc., and at the request of boards of supervisors?" You reply, "It is not a violation of the Code of Ethics, but it is a proceeding injurious to the good standing of the profession."

As the question seemed to come from this latitude, and to have a particular significance here, I was about to ask an explanation from

you for your authority, when it occurred to me to look in the last volume of the "Transactions of the American Medical Association," for the Code, and the ordinance and explanation attached. I found that, by a resolution, said ordinance was dropped at the Chicago meeting last year. By reference to vol. xx, p. 41, you will find:

WHEREAS, The contract system is contrary to medical ethics,

Resolved, That all contract physicians, as well as those guilty of bidding for practice for less rates than those established by a majority of regular graduates of the same locality, be classed as irregular practitioners.

In the spring of 1874 the Clinton County Medical Society suspended two of its members for bidding and taking contracts of the supervisors, for doing the poor business of the county. The case was taken, in appeal, to the American Medical Association, at Detroit. It was referred to the Judicial Council, who affirmed the decision of the Clinton County Medical Society, and appended to the ordinance a preamble, making it still more forcible. At the meeting held last year, in Chicago, "Dr. N. S. Davis moved to strike out, as useless, the preamble and resolution on contract physicians." "The motion was unanimously adopted" (*Vide Trans.*, vol. xiii, p. 46).

In order to ascertain the sense of the Judicial Council in regard to the question, formal charges were preferred against the Iowa State and Scott County Societies, for allowing their members to take contracts for doing the poor business. In the published proceedings of the Buffalo meeting it is reported, "that the charges were dismissed because the subject had been already adjudicated by the Council at their Detroit meeting in 1874." The question was sustained there; now the charges are dismissed because they were adjudicated as valid then. According to the decision of the Judicial Council, is it right or is it wrong to bid and take contracts for the poor business.

Yours, etc., P. J. FARNSWORTH, M.D.  
Clinton, Iowa, June 17th, 1878.

#### Use of Carbolic Acid in the Treatment of Piles.

##### ED. MED. AND SURG. REPORTER:—

Having noticed a discussion upon this subject, by Dr. J. M. Mathews, in a paper published in the *Maryland Medical Journal*, for June, 1878, among the "Selections," I send you a report of the case of Master Charles Duncan, son of Wm. A. Duncan, Esq., of Gettysburg, Pa. On the 19th of April, Charles presented himself at the office. Age twelve years; pulse normal; tongue clean; bowels costive; appetite fair; sleep somewhat disturbed; respiration normal; temperature 96; general health fair; occupation, student of general literature.

Extending from the anal extremity was a well-formed and highly-inflamed hemorrhoidal enlargement, the size of an acorn, painful to touch, and causing much mental uneasiness.

The enlargement was injected with six drops of a solution holding equal portions of carbolic acid (fluid) and Magendie's solution of morphia, by means of a hypodermic syringe. A cold poultice of bread and milk ordered locally, and to be renewed, night and morning, for three days. A wineglass of solution of citrate of magnesia directed, morning, noon and bedtime, until the bowels were softened. After five days there was no trace of hemorrhoidal tumors or treatment.

The injection causes some pain, but not excessive in character, and the result is entirely satisfactory. The empirical course of treatment (and for which high fees are expected) is to place the patient under the influence of chloroform or ether, inject the hemorrhoidal sac, and send the subject about his work. This plan practiced makes large returns, and much notoriety for traveling mountebanks.

J. W. C. O'NEAL, M.D.

Gettysburg, Pa., June 18th, 1878.

## NEWS AND MISCELLANY.

### Non-Resident Physicians at Saratoga.

We have received the following:—

The Saratoga County Medical Society, at their annual session, held on the 4th ultimo, unanimously adopted the following preamble and resolutions:—

WHEREAS, There are certain members of the regular profession, now in good standing in the State Medical Society, as well as in county societies, who annually visit Saratoga Springs for the purpose of practicing medicine, and by questionable measures seek practice, to the detriment of local resident physicians, therefore, be it

*Resolved*, That we, as members of the County Medical Society of Saratoga, do condemn the practice above mentioned as contrary to the spirit of our code of ethics.

*Resolved*, That a copy of the foregoing preamble and resolutions be sent to the *Medical Record*, of New York, the *Medical Times*, and *MEDICAL AND SURGICAL REPORTER*, of Philadelphia, and that a copy be sent to Dr. T. B. Reynolds, delegate to the American Medical Association, now in session at Buffalo, with the request that he will see that it is brought to the notice of the society above mentioned.

C. C. BEDELL, M.D. *Secretary*.

### Russian Killed and Wounded in the Late War.

According to the official returns, early in May, the number of Russian killed and wounded amounts to 89,304 officers and soldiers. The number of generals among these is ten killed and eleven wounded. One prince of the Imperial family, and thirty-four members of the higher Russian nobility died on the fields of battle. Among the wounded, 36,824 have quite recovered. The number of Russians killed and

wounded has been very large in relation to the number of combatants engaged in battle, viz., a sixth part. In the great battles of the Franco-German war the proportion was very much the same. It was a sixth at the battles of Woerth and Spicheren, and one-eighth at those of Vionville and Mars-la-Tour. At Gravelotte it was only an eleventh, and at Wissenbourg a twelfth. The Russian returns show that among the wounded admitted into the hospitals, one in eleven died.

### Home Hospitals.

The association known as "The Home Hospital Association," has been formed in London, for the purpose of opening several small hospitals and convalescent homes for the upper and middle classes, where any one can obtain, on payment, all the advantages of hospital treatment, in addition to many of the comforts of home, not the least of which will be the attendance of his own doctor. The scheme is supported by a very influential class, including the great London companies and banking houses, nearly all of whom subscribed \$500. A donor of 100 becomes a member, with privilege of priority of admission for himself when ill.

### Items.

—Dr. Alexander D. Creamer, a young surgeon of great promise, and the son of Deputy Coroner Joseph Creamer, M.D., of Brooklyn, died recently, under peculiarly distressing circumstances. He was about 23 years old, and for two years prior to his death he was engaged to be married to a handsome and estimable young lady. When the Doctor realized that he was about to die, he expressed a wish to be united to his betrothed. It was half an hour after midnight when the marriage was solemnized, and less than four hours later the bridegroom was a corpse.

—Professor Virchow, of Berlin, believes he can furnish proof, from a Bulgarian skull, that the Bulgarians are not of Slav, but of Turkish origin. For this purpose Herr von Honika will shortly bring from Roumania fifteen skulls of Bulgarians who were killed by the Turks.

—Dr. Le Moyné, of Washington, in this State, the famous cremationist, has given \$20,000 to a colored educational institute in Tennessee.

—The Cincinnati *Commercial* is a radical reformer. It wants a law to compel each graduate of a medical college to make out a deed for his body before receiving a diploma. This will test the student's enthusiasm in the pursuit of medical science.

### MARRIAGES.

KIRK-CLEMENS.—At the residence of the bride's parents, in Doylestown, May 14th, 1878, by Rev. S. M. Andrews, William H. Kirk, M.D., and Miss Crissie H. Clemens, daughter of John and Emma Clemens.